

# Colorado Scientific Society

*In pursuit of the promotion of knowledge,  
the understanding of science,  
and its application to human needs.*

Presidential Address

## **The Midcontinent Rift System Revisited**

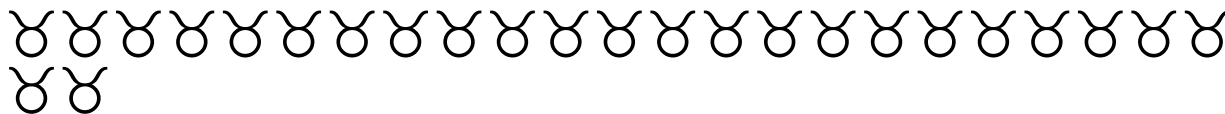
by  
Susan M. Landon

My involvement in the Colorado Scientific Society was initiated by a talk on the Midcontinent Rift System presented to the Society roughly five years ago. It seems appropriate that I would return to this topic for my Presidential Address as this year draws to a close. I will not repeat the earlier talk, but will instead update the current status of this play and use it to outline the changes that have defined the domestic oil and natural gas industry within the past decade. I have, as an independent petroleum geologist, continued to pursue this frontier play that began ten years ago during my tenure with Amoco Production Company. During this time, the original geological model has been systematically refined with the addition of an extensive volume of geophysical data and several exploration wells. As a result, interest continues in the hydrocarbon potential of this play.

Pursuit of the Midcontinent Rift play by an independent has been made possible by several dramatic changes in the petroleum industry. First, the strategic decision of most major companies to refocus their efforts overseas in the mid 1980's reduced competition in the United States and created access to large volumes of data including seismic. An innovative arrangement allows for examination, reprocessing, and interpretation of many hundreds of miles of 1984 seismic data in the Rift. Second, advances in data processing techniques have resulted in seismic displays that are significantly improved over those generated at the time the records were first acquired and processed. This new processing has allowed sequence stratigraphic interpretation in contrast to the original displays that only provided a rough structural picture of the rift. Third, the revolution created by personal computers and market-driven software development allow even the smallest organization access to leading edge technology. With a PC-based software package, we are able to examine individual seismic attributes (amplitude, frequency, and phase) to assist in our interpretation of the sediment fill in the post-rift sag basin of the Rift. Affordable software also allows for low cost, sophisticated basin modeling, which provides information on timing and volumes of hydrocarbon generation. A decade ago technology like this was only available to organizations with the resources to maintain mainframe computers and proprietary software.

The Midcontinent Rift System continues to be a viable frontier exploration play and is even included in the 1995 USGS Resource Assessment. Interesting geology, reduced risk and costs, access to data, and a level technological playing field make this play both geologically exciting and an economically realistic exploration target for the 90's.

## Society Notes



### CANDIDATES FOR UPCOMING ELECTION

The Society will elect its officers for 1996-98 at the December 13 business meeting. Candidates for President-Elect and Councilors were recommended by the Nominating Committee. Paul Williams will continue in the office of Treasurer and the President will appoint a Secretary. In addition, this year we need to fill one partial term (1996-97) of Councilor.

If you can not attend the business meeting, please clip off the election ballot and return it to:

The Colorado Scientific Society  
P.O. Box 150495  
Lakewood, CO 80215-0495

### MAIL-IN BALLOT

President-Elect	<input type="checkbox"/>	Karl S. Kellogg
	<input type="checkbox"/>	_____ (write in)
Councilors (vote for two) 1996-1998	<input type="checkbox"/>	Richard B. Wanty
	<input type="checkbox"/>	James A. Cappa
	<input type="checkbox"/>	_____ (write in)
	<input type="checkbox"/>	_____ (write in)
Councilor (vote for one) 1996-1997	<input type="checkbox"/>	Lisa Ramirez Bader
	<input type="checkbox"/>	_____ (write in)

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### Items for Newsletter

We would like to include any items of general interest regarding members, new programs, scientific meetings, etc., in future newsletters. Please submit materials (hardcopies and/or computer disk) to Lisa Ramirez Bader, USGS, Box 25046, M.S. 939, Denver Federal Center, Denver, CO 80225, or call (303-236-5760) or fax (303-236-0459). Her E-mail address is LBADER@SEDPROC.CR.USGS.GOV. Please send items to the editor before the 20th of the month to ensure inclusion in the next newsletter.

## A Letter of Thank You to the CSS

Susan Landon, President  
Colorado Scientific Society  
P.O. Box 150495  
Lakewood, Co. 80215-0495

October 30, 1995

Dear Susan,

The Western Interior Paleontological Society would like to thank the Colorado Scientific Society for your support for our field season in 1995. With your help we were able to host 55 volunteers at our paleontological project in South Park. We attach a summary of the accomplishments for the summer season and work is presently continuing on the sorting and cataloging of the collected specimens. We also include a portion of a new project that was undertaken this year, an ecological map which will form the foundation for work next season. As noted in our attached project summary, we plan to continue and expand our geological and paleontological activities as well.

The Porcupine Cave project represents a terrific opportunity for the interested public to learn about the mechanics of field research. Our multi-disciplinary team of paleontologists, geologists, paleomagnetists, botanists, and mammologists take delight in demonstrating their craft to the volunteers. The enthusiasm is contagious and all who participate report an unforgettable summer experience.

We are planning to have our 1996 season in August to coincide with the national meeting of the American Speleological Society in Salida. We are planning to have a series of formal talks and to provide guided tours of Porcupine Cave to illustrate our methods of hands-on science education at this national meeting.

Thank you again for your help in this project.

Sincerely yours,  
Bob Raynolds  
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### Environmental Geoscience Seminar Series Sponsored by the U.S. Geological Survey Center for Environmental Geochemistry & Geophysics

December 6, 1995  
Energy Environmental Studies

March 6, 1996  
Climate Change

January 10, 1996  
Summitville Update

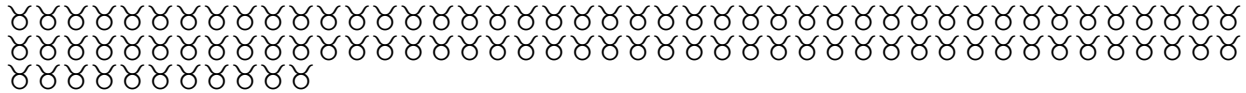
April 3, 1996  
Wetland Dynamics

February 7, 1996  
Ground-Water Vulnerability

May 1, 1996  
To be announced

⌘ Denver Federal Center, Building 25, Conference Rooms A & B  
⌘ 1:00-2:30 p.m.\_Presentations with discussion and questions to follow  
⌘ Open to Institutions, Societies, Federal and State Agencies, and others (no fee)

## Earth Science Meetings



**Colorado Scientific Society.** The next regular meeting will be held on January 24, 1996. The meeting will be highlighted by the Annual Emmons Lecture and is tentatively scheduled to be held in the Green Center, Colorado School of Mines campus, Golden. The meeting and lecture will begin at 8:00 p.m. Look for details regarding this lecture, including location information, in the January CSS newsletter.

The 1996 Emmons Lecturer is Stephen C. Porter of the Quaternary Research Center, University of Washington, Seattle, who will present a talk titled:

"Hawaiian glacial ages"

**Rocky Mountain Association of Geologists.** Regular meetings, normally held on the first and third Fridays of each month, consist of a lunch at 11:55 a.m. and a lecture at 12:25 p.m. in the Bluebell One Room of the Denver Petroleum Club in the Anaconda Towers, 555 17th St., downtown Denver. Cost of the luncheon is \$12. Reservations are taken on a recording line (303-623-5396) until 10:30 a.m. on the Wednesday before the luncheon. Reservations are **not** necessary to attend the talk only; however, there will be a \$2 charge at the door.

Dec. 1 Annual Meeting and Professional Awards Presentation. The cost of the luncheon will be \$12.  
\*\*This will be the only RMAG luncheon held in December\*\*

Jan. 5 "Oh no, El Nino! A correlation of El Nino events and the price of natural gas" by Michael S. Wilson, Consultant

**Denver International Petroleum Society ("D.I.P.S.")).** Meetings held on 2nd Friday

of the month at the Wynkoop Brewing Co., 18th and Wynkoop Streets, lower downtown Denver. Reception at 11:30 a.m., luncheon at 12:00, program at 12:30 p.m. Reservations required by calling RMAG recording line (303-623-5396). Reservations accepted after 2:00 p.m. on Friday and before 10:30 a.m. on Wednesday before the meeting. Cost: \$13 for lunch; talk only is available for \$2. Contact Keith Murray, 303-986-8554, for information.

Dec. 8 "Seismic and other adventures in the Horn of Africa, 1992-1994" by Pasquale V. Scaturro, Exploration Specialists International, Denver, CO

**Denver Mining Club.** All regular meetings are on Thursdays, from 11:30 a.m. to 1:00 p.m. at the Denver Federal Center, Building 41 Cafeteria (south entrance), Lakewood. For more information contact Doris Smith, Program Chairperson (303-456-5428).

Dec. 7 "Telluride occurrences in the Four-Corners states" by Bruce Geller, Consulting Geologist, Advanced Geologic Services

Dec. 14 "Mining and minerals on world postage stamps" by Stan McAlister, Geologist, ARCO (retired)

Dec. 21 "Christmas concert and party" by John Pulliam, Concertmaster, The Jefferson Symphony

Dec. 28 No meeting. Happy Holidays!

**Colorado School of Mines Department of Geology and Geological Engineering, Golden: Van Tuyl Lecture Series.**

Lectures are on Thursdays at 4:30 p.m. in Berthoud Hall, Room 108. Lectures are preceded by refreshments served at 4:00 p.m. and followed by a social hour in the Fireside Lounge at the Student Center. For further information, call Greg Holden (303-273-3855) or the Geology Department (303-273-3800).

Lectures are on Thursdays at 4:30 p.m. in Berthoud Hall, Room 108. Lectures are preceded by refreshments served at 4:00 p.m. and followed by a social hour in the Fireside Lounge at the Student Center. For further information, call Greg Holden (303-273-3855) or the Geology Department (303-273-3800).

The lecture series has concluded for the Fall semester.

This series will resume in January, 1996.

**Association for Women Geoscientists.**

New and prospective members are encouraged to find out more about AWG. For information contact Peggy Ganse, AWG President, 303-832-9636; fax 303-832-9616.

**Friends of Dinosaur Ridge.** Friends of Dinosaur Ridge and cooperating institutions conduct guided tours for visitors to the Ridge, and many people visit on their own. In all, at least 38,000 people visited Dinosaur Ridge during 1994. Friends wishes to spread the word that they plan to accommodate all groups interested in a tour, but do need to schedule groups in advance to avoid conflict. Groups can call Friends at **303-697-DINO** to schedule a tour or for information about Dinosaur Ridge activities and location of lectures. In addition to tours of the Ridge, Friends can provide talks, lectures, and slide shows. Call Bob Kosiba at 303-399-7556

and he'll arrange a trained volunteer to speak to your group.

**Rocky Mountain Section-SEPM (Society for Sedimentary Geology).**

Monthly meetings are held on the fourth Tuesday of the month from September through May, excluding December. All lectures held at the Denver Press Club, downtown Denver, 1330 Glenarm Pl., 2nd floor, unless otherwise noted. Cash bar at 11:30 a.m., lunch at 12:00, speaker at 12:30 p.m. For reservations, call 303-236-1540 before noon of the Friday prior to the luncheon. For further information, call Jeff May at 303-794-5414. Lunch reservation **not** required to attend lecture.

Note: No meeting to be held in December. The next meeting will be January 23, 1996.

Jan. 23 "The Lodgepole Fm. Integration of subsurface and outcrop data for exploration and field development" by Julie Kupecz of Kupecz & Assoc., Ltd., Denver

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## Colorado Scientific Society

...	OFFICERS		COUNCILORS
President:	Susan M. Landon, Consultant, 436-1930	1993-95:	Marith C. Reheis, USGS, 236-1270
President-Elect:	Richard F. Madole, USGS, 273-8607	1993-95:	Karl S. Kellogg, USGS, 236-1305
Treasurer:	Paul L. Williams, USGS, 236-1256	1994-96:	Kathleen M. Haller, USGS, 273-8616
Secretary:	James A. Cappa, CGS, 866-2611	1994-96:	Frank J. Alder (retired)
Past President:	Jack Reed, USGS, 236-1276	1995-97:	Mark R. Hudson, USGS, 236-7446
		1995-97:	Susan Bartsch-Winkler, USGS, 236-8289

## COMMITTEE CHAIRPERSONS

...	Arrangements:	William E. Brooks, USGS, 236-5627
....	Best Paper Award:	Stephen A. Sonnenberg, Consultant, 238-8708
.	Field Trips:	Robert G. Reynolds, Consultant, 762-9379
.	Fund Raising:	David E. Eby, Consultant, 738-9697
.	History:	Marjorie E. Mac Lachlan, USGS-retired, 986-7192
.	Membership:	Mary-Margaret Coates, 422-8349
.	Memorial Funds:	Michael M. Machette, USGS, 273-8612
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..	Newsletter Editor:	Lisa Ramirez Bader, USGS, 236-5760
.	Outreach (signs):	Peter J. Modreski, USGS, 236-5639
..	Program:	Richard B. Wanty, USGS, 236-1819
....	Publicity:	Lisa Ramirez Bader, USGS, 236-5760
...	Science Fair:	Eric A. Erslev, CSU, 491-6375